

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
1 September 2005 (01.09.2005)

PCT

(10) International Publication Number
WO 2005/079652 A1

(51) International Patent Classification⁷: **A47L 01/02,**
G03D 05/04, G11B 03/58

(21) International Application Number:
PCT/US2005/004433

(22) International Filing Date: 14 February 2005 (14.02.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/544,803 13 February 2004 (13.02.2004) US

(71) Applicant (for all designated States except US): **DIGITAL INNOVATIONS, LLC** [US/US]; 3436 N. Kennicott, Suite 200, Arlington Heights, IL 60004 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **ABFALL, Tony, J.** [US/US]; 1315 Mulberry Lane, Mount Prospect, IL 60056 (US). **HOLBROOK, Paul, R.** [US/US]; 2218 Miramar

Lane, Buffalo Grove, IL 60089 (US). **KOHLER, Stephen, J.** [US/US]; 217 Hartrey Avenue, Evanston, IL 60202 (US). **NELSON II, Sigurd, A.** [US/US]; 1201 Michigan Avenue Apt. 2, Evanston, IL 60202 (US). **WASKIN, David, M.** [US/US]; 55 South Vail Ave. #514, Arlington Heights, IL 60005 (US).

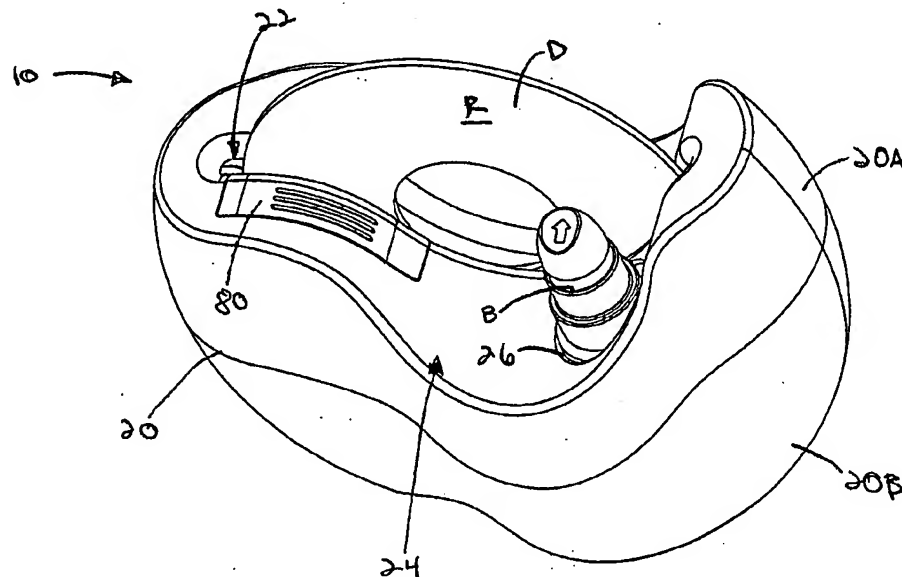
(74) Agent: **MCGINLEY, Paul, M.**; Michael Best & Friedrich LLP, 401 N. Michigan Avenue, Suite 1900, Chicago, IL 60611 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: DISC CLEANER



(57) Abstract: A disc cleaner (10) for cleaning discs (D), which in some aspects can clean vertically oriented discs. The disc cleaner may include a housing (20) for supporting a disc, a drive assembly supported by the housing and engageable with the disc to rotate the disc, and means for applying cleaning agent (B) to a data recording surface of the disc (R) while the disc is supported by the housing. The disc cleaner may include housing that facilitates handling of the disc by its central hole, a drive assembly disposed within the housing, the drive assembly frictionally rotating the disc by its perimeter, and a switch (75) for actuating the drive assembly when the disc is at least partially inserted in the housing.

WO 2005/079652 A1



GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv)) for US only

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/04433

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A47L 01/02; G03D 05/04; G11B 03/58;

US CL : 15/102, 97.1; 369/72;

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 15/102, 97.1, 103.5, 88.1, 77; 369/72; G11B 03/58;

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X — Y	US 3,005,223 A (TAYLOR et al) 24 October 1961 (24.10.1961), column 2, lines 22-62.	1-2, 4-7 ----- 8-14
X — Y	US 4,101,999 A (DOYEL) 25 July 1978 (25.07.1978), column 3 line 48 to column 4 line 41).	1-2, 4, 15-17, 19 ----- 3, 8-10, 20-22
X — Y	US 4,202,071 A (SCHARPF) 13 May 1980 (13.05.1980), column 2 lines 3-31 and column 3 lines 16-32.	1-4, 8-11, 15-17, 19, 21-22 ----- 12-14, 18, 20
X — Y	US 4,604,672 A (DAVIS et al) 05 August 1986 (05.08.1986), column 5 lines 5-36, column 11 line 64 to column 12 line 11, column 14 lines 37-61.	1, 4-9, 12, 14, 15-16, 19-20 ----- 10-11, 13, 17-18
Y	US 2002/0129455 A1 (WEI) 19 September 2002 (19.09.2002), pages 1-2.	8, 12-14, 18



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means		
"P" document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search

20 April 2005 (20.04.2005)

Date of mailing of the international search report

29 APR 2005

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

Laura Cole

Telephone No. (571) 272-1700

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US05/04433

C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 57003206 A (AZUMA) 08 January 1982 (08.01.1982), figure 2.	12, 13
A	JP 54100701 A (OTSUKI) 08 August 1979 (08.08.1979), figures 1-3.	1-22